Dino de Paoli

Man: A Unique Guarantor For the Earth's Future

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Dino de Paoli: "The only way to conserve life in our planetary system depends on the constant increase of the survival power of life itself, by the contribution of our scientific and technological discovering power. It seems as if we are doomed to be creative!"

1. Planetary-Induced Environmental Catastrophes

The international press has extensively reported, that on June 14 of this year, we survived a "near miss": A small asteroid missed the Earth by only 100,000 kilometers (a small distance from the planetary perspective), and the object was only detected three days *after* its close approach.[1]

Such a small asteroid could, nonetheless, cause quite serious damage to a nation and to some biological habitats. Bigger objects, i.e., with a diameter greater than 1 km, pose a very serious threat to the entire human and biological system of our globe, and the possibility of such an event, indeed materialized itself some weeks ago.[2]

The probability that such a catastrophe could indeed happen, is not so small,[3] and for this reason, NASA has been asking the American government to improve both the power of detection and provide a better definition of countermeasures to destroy or divert the path of such objects. At the present level of knowledge and technology, only measures linked to mastery of space flights and the eventual use of nuclear explosions could have some chance of being effective.

I cannot but endorse the following declaration of the American Institute of Aeronautics and Astronautics: "If some day an asteroid does strike the Earth, killing not only the human race but millions of other species as well, and we could have prevented it but did not because of indecision, unbalanced priorities, imprecise risk definition, and incomplete planning, then it will be the greatest abdication in all of human history not to use our gift of rational intellect and conscience to shepherd our own survival, and that of all life on Earth."[4]

It is clear that a policy concerned only with ecologism, fiscal austerity, speculation, and the "New Economy," is intentionally sabotaging the few possibilities that we would have to prevent such a massive "environmental" catastrophe here on Earth. I would like to cite here what I wrote as a conclusion to an article in 1997:

"A collision with an asteroid, the evolution of the Sun, etc., can dramatically change, or destroy, biological life on our planet. In any of such events, no animal could do anything to help; only man could do something, but not a man dominated by a culture which has reduced itself to the technology of wind mills, nor by an economic ideology which could have an imaginary President declaring on CNN: 'Dear citizens, we know a big comet is going to hit the Earth, you can follow it on the Internet! We have the technology to stop it, but we are not allowed to incur any more debts; we have no money to deploy to stop the comet!' "

We may laugh, and think that such a foolish President does not exist, but in reality many governments today are implicitly operating under such assumptions. Now, I want to push the example of a planetary catastrophe to its own limit, so that the contradictions of the presently dominant way of thinking are even more clearly exposed.

Colonization of Other Planets As a Horizon

Our present knowledge tells us that in some remote future time, the Sun will evolve, increasing the temperature of the Earth to a level where life will be practically impossible.

1. Asteroid 2002 MN, with a diameter of 120 meters, a speed of 36,000 km/h, passed at 119,000 km from the Earth. By comparison, the Moon's orbit is at 380,000 km.

2. On July 9, NASA announced the discovery of Asteroid 2002 NT7, with a diameter of 2 km, with some probability (Torino scale=1) that it could collide with the Earth in the year 2019.

3. The expectation of a collision of a big asteroid with the Earth has a statistical frequency of 100,000 years, according to NASA.

4. "Response to the Potential Threat of a Near-Earth-Object Impact."

There is only one infinitesimal chance that life, as we know it, can be conserved, and that small chance depends entirely upon our morality, our creative powers, and our will. We can survive if we already today start orienting R&D toward assuring the means to progressively colonize the outer planets, and even to go outside the planetary system itself. At the same time, we have to pursue the understanding of the fusion reactions inside the Sun and see if we can stabilize such processes for a longer period.

How? I do not know, but it is wrong to think about the future only by linear extrapolation from today's technological capacity. All we really know is, that there is no law of nature which states that it is impossible to do something and that we should not even try. What we know is, that the only way to conserve life in our planetary system depends on the constant increase of the survival power of life itself, by the contribution of our scientific and technological discovering power. It seems as if we are doomed to be creative!

Therefore, the ultimate resource is not located in some raw material here on Earth, but in our own mind, and we can maximize the chances and activate the necessary means only by gaining the support of entire societies and the active cooperation of more and more people.

Such a level of planetary cosmic catastrophe may appear to some of you to be science fiction, but these are very real possibilities—in a sense, even more real than some of the catastrophes imagined by the simple use of mathematical models based on data correlated according to imprecise theories.

Naturally, this does not mean that we should ignore other short-term natural or man-made catastrophes, but I think that we have to relocate the existence and the activity of man inside a bigger notion of "environment" than the one used by ecologists. We have learned to locate events on a time-space scale that would have been impossible even to dream of only 500 years ago, and we have learned that we can master fire and not panic like any animal does—although I am sure that the first man who tried to do so, burned himself!

It is from the standpoint of such an expanded notion of "environment" that I see the dangerous shortcomings of dominant environmentalism. With the excuse of "defending the Earth from man's technology," we are cutting or eliminating programs for the colonization of other planets, programs for further research in "hard energies," programs to search more deeply into particle physics, etc. If such policies were implemented till the end, then we would create an irreversible situation, where man would have no real power to react to terrestrial and planetary catastrophes, and, therefore, it would be like deciding in favor of collective suicide, probably of the entirety of life on Earth.

The fact that otherwise intelligent people refuse to see such obvious contradictions, tells me that behind the hysteria about "over-population" and the "negative effect" of technological progress, there are people with an agenda which is different from their stated environmental concern. To show that this is probably true, let me expose how the issue of "over-population" was used long before the words "environmental concern" had even been conceived.

2. A Short History of the 'Over-Population Threat'

Let us focus first on the policies presented by a few representatives of the British Empire in the 18th and 19th Centuries:

Adam Smith

The British economist Adam Smith (1723-90), the so-called father of modern market economy, wrote: "Every species of animals naturally multiplies in proportion to the means of their subsistence, and no species can ever multiply beyond it. . . . In civilized society it is only among the inferior ranks of people that the scantiness of subsistence can set limits to the further multiplication of the human species; and it can do so in no other way than by destroying a great part of the children which their fruitful marriages produce. . . . The market would be so overstocked that it would soon force back its price [wages]; in this manner the demand for men . . . necessarily regulates the production of man, . . . stopping it when it advances too fast."[5]

Smith uses here one of the main laws of animal ecology, which today is called "carrying capacity": The level of resources functions as an absolute limiting factor for the population level of an animal species. In the case of human beings, according to Smith, it is the manipulation of wages that will induce a scarcity of resources and therefore reduce the population by starving the children of the poor.

Thomas Malthus (1766-1834), another employee of the British East India Company, having in mind the booming population in America, formulated his so-called law:

"The population when unchecked . . . increases in geometrical ratio . . . while the rate of increase of the natural products is not so. . . . When all the fertile land is occupied, the yearly increases of food must depend on the amelioration of land in possession. This is a stream which, from the nature of all soils, instead of increasing, must be gradually diminishing."[6]

Malthus did not believe in the power of the market; There-

5. Adam Smith, *The Wealth of Nations*, Chapter 8.

6. Thomas Malthus, *Essay on the Principle of Population*, Vol. 2, 1826.

fore to reduce the population, he asked the state to actively intervene by preventing marriages of the poor and by cutting their social welfare.

It is important to note here that Malthus, after Smith, introduced another key axiom of modern ecological theories, an axiom that is today called "the necessary increase of entropy." Malthus, above, clearly says that "natural fertility" has to be considered as a stream of energy continuously and gradually losing its power to do work. Thus, farmers will constantly experience the so-called "law of diminishing returns." But, if such a law is really absolute, then there is no lower limit to population reduction, and it is only a question of time until no population at all would be able to drink out of this constantly diminishing stream.

The German economist Friedrich List, a contemporary of Malthus, in his *National System of Political Economy*, immediately exposed the inherent contradictions in Malthus. List explains that if one were to search for an optimum population level only in relation to a fixed "diminishing natural fertility," then one would discover that the 1 million hunters of the Paleolithic era were already over-populating!

Environmentalism and Social Darwinism

Charles Darwin in 1859 used Malthus' ideas to elaborate his famous *The Origin of the Species and . . . the Preservation of Favoured Races in the Struggle for Life*, and later expressed more explicitly the brutality of his thinking about over-population.[7] For example: "Thus the weak members of civilized societies propagate their kind. No one who has attended to the breeding of domestic animals will doubt that this must be highly injurious to the race of man. It is surprising how soon . . . care wrongly directed, leads to the degeneration of a domestic race; but excepting in the case of man himself, hardly anyone is so ignorant as to allow his worst animals to breed."

Charles Darwin

"A most important obstacle in the civilized countries to an increase in the number of men of a superior class, has been . . . that the very poor and reckless . . . produce many more children. Thus the reckless, degraded . . . tend to increase at a quicker rate. . . . In the eternal 'struggle for existence,' it would be the inferior and less favored race that had prevailed by virtue of its faults."

"If the specified checks . . . do not prevent the reckless . . . and other inferior members of society from increasing at a quicker rate than the better class of men, the nation will retrograde, as has too often occurred."

Darwin, like Smith and Malthus, seems to be less concerned about the environment than about conserving the power of the aristocracy, which was notoriously inbred.

But it is such reflections which directly shaped the axioms of the "science of ecology," which was then founded. It is Ernst Haeckel, a German biologist and, later, Nazi sympathizer, who in 1869 introduced the term Ecology as: "the study of the economy . . . of animal organisms. This includes the relationships of animals with the inorganic and organic environments, above all the beneficial and inimical relations Darwin referred to as the conditions for the struggle of existence."

Haeckel's ecology, and modern ecology thereafter, fully incorporated the fundamental axiom of Darwinism: *Natural evolution does not recognize any notion of "progress," but only of "variation," that is, only quantitative differentiations.* This means that science is not allowed to attribute any special status to man. Therefore, human beings operate "naturally" only when they operate like animals, and any divergence from this "natural" behavior must be considered a danger for the natural environment and the equilibrium of nature. For example, if medicine helps the weak to survive, this is an action against natural law. If technology allows more people to eat, this also is against natural law.

Neo-Social Darwinism

Now I want to jump to the period after the Second World War, to see the implications of this hatred of man's "specificity." Malthus' argument about the decline in natural land fertility was proven to be wrong—especially in the U.S.A.—through the introduction of fertilizers by Justus Liebig, and the use of mechanization. As a result, Malthusianism was reformulated approximately in the following way: *Technological progress can momentarily increase natural fertility and therefore can allow for population increase. But, in the long run, industrialization, by increasing the transformations of energy-matter, will accelerate the overall entropy or the overall degradation of the environment and the exhaustion of resources. Therefore, population growth must be controlled, and this can be done only with the old ideas of Smith-Malthus-Darwin.*

Two very famous people associated with this reformulation of Malthusianism are worth mentioning here. The first is Bertrand Russell, who, in 1951, wrote against technological progress, saying that he hoped that mass starvations and famine in the Third World could help solve the problem of overpopulation.[8] That these were not abstract wishes in the British Commonwealth, has been revealed by recent declassification

7. Darwin's quote comes from *The Descent of Man and Selection in Relation to Sex*, 2nd ed. (London: J.Murray, 1874), pp. 46, 133, 138, 140. For more quotes see Dino de Paoli, "The Real Darwin," *21st Century Science & Technology*, Fall 1997.

8. Bertrand Russell, *The Impact of Science on Society*, 1951.

of top-secret files from the National Archives of Australia, which have revealed that the Nobel Prize winner for biotechnology, Sir Macfarlane Burnet, recommended (in a secret report for the Australian Defense Department in 1947) the spread of controlled infectious diseases to target food crops of other Asian countries, to stop the over-population which could threaten Australia.

Bertrand Russell

The second person is the no less famous Norbert Wiener, the founder of cybernetics, who, in 1950, in *The Human Use of Human Beings,* attacked medicine for allowing too many people to reach old age, and detailed how crucial it is to eradicate the "myth" of progress, which causes only destruction of the environment, and exhaustion of resources in the following 50 years (more than 50 years have passed!) without being able to control over-population. Therefore, the only functioning policy is application of Malthus' old ideas of active population reduction. It is through Wiener that ecology and sociology were unified and transformed into system analysis, that is, reduced to mathematical models with emphasis on so-called cybernetic negative feedbacks, i.e., policies able to counteract the perceived acceleration of human activities.

Norbert Wiener

The project to reduce industrial output did not find much resonance during the period of post-war reconstruction in Europe, but it accelerated again in the 1960s.

In 1961, the World Wildlife Fund was founded by Britain Royal Consort Prince Philip, who later said that his wish was to be reincarnated as a virus so as to be able to solve the problem of over-population by killing human beings.[9] In 1967, the military organization of NATO itself started organizing workshops on the issue of energy, environment, and over-population. In 1968, the famous Club of Rome was formed, with the explicit aim of lobbying for world policies of zero growth and post-industrial or "technetronic" societies. A technetronic society, in its essence, meant the following: Africans do not need to go through the industrialization phase, instead we can give them the Internet; in this case, they will not need to access any difficult know-how, but need only to learn the use of a keyboard. In May 1969, the United Nations published *World Population, a Challenge to the United Nations and Its System of Agencies.*

Prince Philip, who vowed that he would like to be reincarnated as a virus so as to help solve the "over-population" problem.

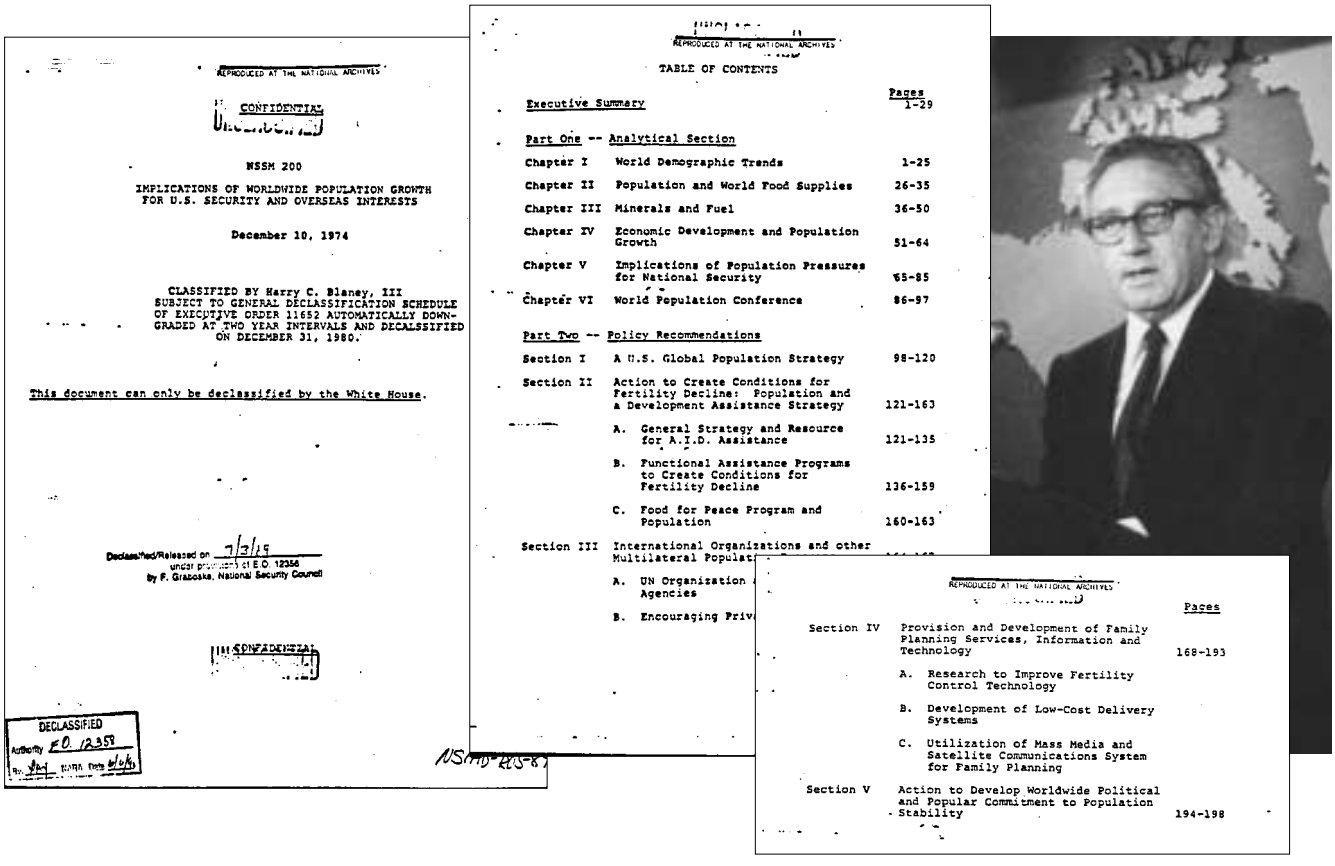
United States Adopts NSSM-200

In this climate, in 1969 President Nixon sent to Congress his "Special Message on Problems of Population Growth." Thus began the explicit commitment of the United States to actively reduce the over-population of the Third World. In 1973, the so-called oil crises arrived conveniently to prove that, indeed, resources are limited and that the Arabs would abuse the power they had over fossil fuel. (Today we know a bit more. The then-Minister of Oil of Saudi Arabia, stated in an interview to the *Observer* of Jan. 14, 2001, that he knew that Henry Kissinger had been pushing for an increase in oil prices.) In 1974, Nixon's National Security Adviser, Henry Kissinger, ordered the drafting of National Security Study Memorandum 200, to determine the "Implications of World Population Growth for U.S. Security and Overseas Interests." This secret memorandum (which remained classified for 14 years) details how and why continued rapid world population growth gravely threatens U.S. and global security.

Kissinger pursued the same policy under President Gerald Ford who, according to National Security Adviser Brent Scowcroft, "believes that United States leadership is essential to combat population growth and to advance United States security and overseas interests." The same policy was followed up with Zbigniew Brzezinski under Jimmy Carter in 1977, and expressed through reports like *Project for the 1980s* and *Global 2000.* With Brzezinski there is a stronger emphasis placed on the issue of technetronics, the "New Economy," etc.[10] Since then, we have seen only an acceleration of the

9. Deutche Presse Agentur, August 1988.

10. Zbigniew Brzezinski had started such reflections already in 1965, together with Samuel P. Huntington (today famous for his Clash of Civilizations thesis), under the project called "Agenda for the Year 2000."



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NSSM 200

IMPLICATIONS OF WORLDWIDE POPULATION GROWTH FOR U.S. SECURITY AND OVERSEAS INTERESTS

December 10, 1974

CLASSIFIED BY Harry C. Blaney, III
SUBJECT TO GENERAL DECLASSIFICATION SCHEDULE OF EXECUTIVE ORDER 11652 AUTOMATICALLY DOWNGRADED AT TWO YEAR INTERVALS AND DECALSSIFIED ON DECEMBER 31, 1980.

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NSSM 200-8

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Henry Kissinger, with his National Security Study Memorandum 200, which denounced population growth in the Third World as a "national security threat" to the United States, and laid out a classified strategy for grabbing the raw materials of those nations, on behalf of an English-speaking world empire.

Zbigniew Brzezinski in 1975, before becoming Jimmy Carter's National Security Adviser. Brzezinski continued the Malthusian policies introduced by Henry Kissinger during the Nixon Administration.

policy of disinvestiment in R&D under the pretexts of ecologism, austerity, and fantasies about the "New Economy," while, in the meantime, indeed the world population has been suffering famine, AIDS, lack of water management, etc.

I hope I have been able to make clear, with this partial overview, that the issues of over-population and the "danger" of technological progress have been often used in the context of a social power struggle, more than for honest environmental concerns. The brutal paradox is that the implementation of such policies, diminishing scientific breakthroughs in the last 50 years and sabotaging the technological development of the Third World, is the real cause behind much of the environmental degradation and famines we observe today.

3. Some of the Axioms Must Be Revised

The reason why policies based on reducing the "specificity" of man and imposing zero technological growth, will cause only irreparable damage, lies primarily in the fact that the axiomatic base of Social Darwinism is false. In reality, far

from reflecting universal laws of nature as it pretends to do, Social Darwinism reflects an attempt to stop a basic law in our universe, which can be so formulated: *Conservation is possible only by progress through creative evolution.*

Let me briefly elaborate this point as my conclusion. There is no doubt that growth processes are always confronted with relative limits, and that degradation develops when one tries to overcome such limits with the wrong means, or if a population tries to use the same type of resource for too long a period. But there is no absolute law of nature that supports the theory that such limits cannot be overcome by creative transformations, thus avoiding the struggle for survival over limited resources.

As we have seen, Malthus and Darwin used three implicit axioms, which are still the backbone for modern modeling of relations between man and nature:

1. The natural energy flow, or natural productivity, constantly degrades itself.

2. Life is a product of the degrading energy flow, although it seems to follow its own law of growth against such degradation.

Any interrelation of life and energy using the above two axioms creates a contradiction: If life is an effect of energy, how it is possible for life to express a tendency toward organization instead of degradation? The usual answer is approximately the following: *An organism is kept alive only by a constant supply of energy, without which it would rapidly disintegrate, and, therefore, respond to the universal law of degradation of energy and matter.*

But to explain life in this way is like saying: *If an airplane consumes its fuel, it will fall, and, therefore, this proves that an airplane is also subjected to the law of gravity.* Indeed, but the interesting issue was to study how and why such a piece of metal that we call an airplane could be transforming energy fluxes so as to be able to fly and go against the gravity field.

Louis Pasteur

The interesting issue to debate is not whether a dead cell responds to the law of entropy, but why and how our universe allows for the existence of "living cells," of such new possibility and state of energy organizations. Why does the universe make it possible not only to fall, but also to fly?! One should admit the possibility that a few scientists approached the issue from the wrong side. In order to make a long story very short, let me quote the great French biologist L. Pasteur: "You put matter before life, and you make matter eternal. How do you know that the progress of science will not force you to affirm that life is eternal and not matter? You go from matter to life, because your present knowledge tells you that you cannot understand things in a different way. . . . Who assures me that in 10,000 years we will not say that it is impossible not to go from life to matter?"[11]

Life and 'Energy'

Vladimir I. Vernadsky

I think that Pasteur's approach, the same as P. Curie's or V.I. Vernadsky's, could help solve an otherwise seemingly impenetrable contradiction which is misleading science and which is being abused to define wrong and dangerous social policies.

It is around the contradiction about life and energy—life that grows and energy that diminishes in quality—that the basic model of population dynamics, as we already observed in Smith and Malthus, is constructed. The growth of the population of living organisms will reach impassable limits defined by the slower cycles of matter and the degradation of energy.

Indeed, this seems to hold true for isolated animal species

11. Louis Pasteur, *Pages choisies* (Paris: E. Sociales, 1970), p. 56.

in local ecosystems. But if we move our attention to the complex evolution of the total biosphere; then, as Vernadsky elaborated, we observe a continuous change in the limiting factors: We observe the formation and transformation of the composition of the atmosphere, of the oceans, of the climate, of the biogeochemical flux, etc. We have to admit that living processes are based on actively adapting or transforming the geochemical environment to their own biological needs.

Moreover, it is wrong to affirm that life acts like a parasite, selfishly eating energy and minerals. I expect to see some ecologist start protecting minerals from the destructive activity of Life! Living organisms, by transforming solar radiation and producing organic material, not only construct the elements to sustain themselves and the next generation, but, in so doing, they perform positive work for the whole universe.

It is known that a planet without life reflects solar radiation totally and therefore spreads out heat, which is considered in physics to be an indication of the increase in entropy, or progress toward the so-called "warm death of the universe." The Earth's biosphere incorporates some of the Sun's radiation into organic matter and, therefore, in a sense, "cools" down the system, reduces entropy, and keeps the universe alive a bit longer!

Therefore as long as the interaction between living and inert matter remains an open question, we should at least abstain from deriving social policies which abuse concepts as the universal degradation or life "eating" energy.

3. The third axiom of the Social Darwinism can be so summarized: *Man is only the last and most powerful parasite in the chain of beings, inside that complicated parasite called the biosphere.*

Platonic philosophy, and especially the three monotheistic religions, have no difficulty in stressing what is obvious to each man: that human beings have something specific and unique. Not only that, but that such a unique quality, although it may be wrongly used, is a gift of God and not of the devil.

Cognition and Life

Modern science, for sociological and methodological reasons, has found it easier either to exclude man from the universe it studies, or to include a man robbed of his nature, his essential qualities. Again, to render a long and complicated issue in brief terms, I think that the same reproach Pasteur made to the materialist concerning the issue of life, is valid concerning the existence and functioning of creative cognition in relation to life and matter. As long as we try to reduce life to matter, and reduce the mind to the brain, we will have difficulties in explaining life and human cognition except as aberrations, as parasitisms or even as diabolical forces.

If we try to approach the issue from a different perspective—that the human mind is a lawful, causal force acting in this universe, in the same way that life is—it seems to me that many paradoxes disappear.

The human species cannot be studied as if it were just another animal species; it has in itself the same quality of power that life in its totality had. What life did by coupling the higher transformation of energy flows with different genetic species, reappears in human history as the coupling of increase in energy flows with new genetic forms of technologies. In so doing, man is carrying life's intentions further, and through man's action, total populations can be increased and supported at levels never seen before.[12] Therefore, the concept of environment, when applied to man, becomes continuously bigger and more complicated, tending to include more and more the entire planetary system.

'We Are Doomed To Be Creative'

If we think back to biological life on Earth, it is obvious that it encounters a couple of limits which are hard to overcome: the finiteness of our planet and the fact that the Sun, its main source of energy, cannot be directly transformed by biological organisms—it is too hot and too far away. But it is also obvious that such limits are easier to overcome if we include man as the carrier of cognitive creative powers inside the biosphere. This tells us that the concepts of limit must change again and again.

The power of mind allows life to transcend its own limits, not with the selfish aim of satisfying the greedy needs of a few; on the contrary, human creative power is the "life insurance" of the Biosphere, and by increasing the Biosphere's anti-entropic function, it allows the universe to conserve itself. In this sense, science should not reject *a priori* what religion says: that "human labor is a participation in the creative activity of God . . . in the process of transformation of the created."[13]

Usually, the ultimate defense of the environmentalist is to ask, "But, does man have the moral power to sustain his intellectual power? What is the guarantee that he will not abuse it?"

I have no easy answer to such a question, but I know that any serious team leader, if faced with the choice between a road leading to a sure death, and a risky road which can lead to survival, would take the second one. While in the case of biological evolution, we can visualize some kind of inner necessity; in the case of man, the recognition of such necessity is more difficult. Man has a free will, he can always fall prey to "the fears that he often has of his own scientific discoveries."[12] And a culture of death and existentialism is there, ready to manipulate such fears, by insisting that we should be a bit more animal and a bit less man.

Therefore, science is not a purely analytical debate, but it is a hard fight, a fight for truth even when a majority seems to think differently: a struggle to go back to our responsibility and to move out in the open frontiers of our cosmos.

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12. In this section, I am using essential concepts from Lyndon H. LaRouche Jr.'s notion of physical economy, elaborated for this conference by Dr. Jonathan Tennenbaum.

13. From the speech of Pope John Paul II, "Science Must Serve Men," 1991.